I. OVERALL FRAMEWORK OF THE ANALYSIS

4. The purpose of my affidavit is to analyze, from an economist's perspective, the VIII(C) provision of the Consent Decree with respect to NYNEX's application for a waiver to acquire the shares of Private Transatlantic Telecommunications System, Inc. (PTAT). The II(D) line of business restriction in the Consent Decree forbids entry by Bell Operating Companies (BOCs) into interexchange telecommunications markets. The VIII(C) provision allows for removal of the II(D) restriction so long as there is no substantial possibility that a BOC can use monopoly power to impede competition in the market it seeks to enter. In this affidavit, I apply economic analysis to determine whether the VIII(C) provisions permit removal of the II(D) restrictions for NYNEX participation in PTAT. I have been informed that the venture in which PTAT will participate, which is known as Market Link, is designed to provide international telecommunications services by fiber optic cable to and from the US. PTAT will own a 50 percent interest in Market Link's transatlantic fiber optic cable system scheduled to begin operation in mid-1989 between the US and Great Britain. PTAT's British partner is Cable and Wireless, Ltd. PTAT currently proposes to sell the capacity to large users on an unswitched basis.

5. I have analyzed the NYNEX waiver request under the assumption that the cable system is terminated in the NYC LATA. My conclusion is that NYNEX's involvement in PTAT satisfies the VIII(C) standard. NYNEX does not have a "bottleneck" facility through its local network which would permit it to impede competition in the international telecommunications market it seeks to enter. I will define a relevant large user market for exchange access and demonstrate that significant competition currently exists in that market. NYNEX lacks the market power which it could "leverage" to impede competition in the international

telecommunications market. Furthermore, the competition is not just potential. The largest competitor, Teleport, is currently an important competitor in the NYC LATA large user exchange access market. Even if the bottleneck did currently exist, NYNEX has neither the incentive nor the ability to "impede competition" in the international telecommunications market if its acquisition of PTAT is approved.

6. In my analysis of the possibility that NYNEX could impede competition, I will concentrate on NYNEX's "incentives and abilities" to impede competition by either "cross-subsidy or discrimination." First, NYNEX has no incentive to cross-subsidize the international telecommunications market; that is, NYNEX has no incentive to adopt a predatory strategy. Given that AT&T has by far the largest market share, NYNEX could never succeed in forcing AT&T to exit from the market. So a predatory scheme is doomed to failure. Similarly, current or future competitors such as MCI, US Sprint or others could not be successfully predated against. Second, NYNEX lacks the ability to discriminate in either service quality or price. It is unlikely that NYNEX could distinguish those facilities which provide international access to competing carriers such as AT&T from those facilities which provide exchange access. Furthermore, access provided by other BOCs and GTE to interexchange carriers would provide a yardstick against which to measure NYNEX access to competing international carriers. Since the access cost share of the total international service cost is small, price discrimination by NYNEX would not lead to a significant competitive advantage for PTAT.

7. Significant potential benefits to US firms, and also to consumers, arise from PTAT. Facilities based provision of transatlantic communications is characterized by a market structure which is either a monopoly or a duopoly, depending on market definition. Entry of a new firm with a significant amount of capacity will lead to increased competition. This increased competition is likely to

lead to lower prices. US firms will be made more competitive which is especially important for financial institutions who will be large users of PTAT and who face increased international competition. The increase in competitiveness will lead to increased employment and increased consumer welfare. The increased competition will be consistent with the goals of the Consent Decree, which attempt to create the maximum competition possible in US telecommunications markets.

II. NO "BOTTLENECK" EXISTS IN THE LARGE USER MARKET

A. A Separate Product Market Exists for Exchange Access Service for Large Users

8. The antitrust definition of a market involves an identification of the appropriate group of firms which would be able to raise price and increase profits if they acted together as a cartel.[1] This approach to market definition is adopted by the Department of Justice (DOJ) in the 1984 U.S. Department of Justice Merger Guidelines (June 14, 1984). First, demand substitution is accounted for:

> In general, the Department will include in the product market a group of products such that a hypothetical firm that was the only present and future seller of those products (a "monopolist") could profitably impose a "small but significant and nontransitory" increase in price. (pgh. 2.11)

Then supply (production) substitution is analyzed:

> If a firm has existing productive and distributive facilities that could easily and economically be used to produce and sell the relevant product within one year in response to a "small but significant and

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[1] An attempted price rise may be unprofitable because of substitution arising in either the demand for or supply of the product. Demand substitution will occur through consumer demand shifts to competing products. Supply substitution will arise when producers of different products who find it profitable to shift production to the product in question. If sufficient demand substitution or supply substitution exists to make the price rise unprofitable, then the products which create the substitution should be included in the market definition.

> nontransitory" increase in price, the Department will include that firm in the market. (pgh. 2.21)

The Government typically considers a price increase of 5 percent which lasts for one year in the analysis of either demand substitution or supply substitution.

9. In this affidavit, I will apply the product market definition to large user exchange access. I will focus on exchange access to a carrier's point of presence (POP).[2] For large users numerous demand substitutes exist. These substitutes include microwave transmission, alternative local cable transmission systems (fiber optic, coaxial, etc.) such as those provided by metropolitan area networks and teleports, and satellite transmission. The data which I will present demonstrate that these substitute services are competitive with NYTel transport to interexchange carriers' POPs and therefore should be included in the relevant market.

10. I have considered whether exchange access for residential customers and small businesses should be included in the relevant market and have come to the conclusion that it should not. LEC exchange access substitutes are rarely economical for small users. On the other hand, if all suppliers of large business exchange access raised their prices, a LEC could not shift its capacity from small businesses and residences to capture enough business to make the price rise unprofitable. Thus, the large user access market is distinct from the small user access market.

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[2] From the POP onward, the BOC can have no effect on service or prices.

B. The Large User Market Defined

11. I base the large user market definition on sufficient interLATA usage at a specific location to make DS-1 or higher capacity access economical.[3] [4] DS-1 capacity is equivalent to 24 voice circuits. This definition includes customers with usage of about 20,000 or more minutes of interLATA toll use (MOU) per month from a single location (see Exhibits 1 and 2 where the breakeven minutes are computed). Customers of this size typically represent about 33 percent of business customer toll usage. Thus the large user market definition includes users who are large enough to justify use of special access to interexchange carriers rather than switched access over the public network. As toll usage expands beyond 20,000 MOU/month, alternative access facilities become increasingly attractive on a cost basis.[5]

12. This large user definition meets two other criteria set forth in the Department of Justice Merger Guidelines section on market definition (pgh. 2.12):

> (i) Differences in the price movements of the products or similarities in price movements over a period of years that are not explainable by common or parallel changes in factors such as costs of inputs, income, or other variables.
>
> (ii) Evidence of sellers' perceptions that the products

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[3] The market definition for a large user market is not altogether clear since market boundaries are rarely precise. Another possible definition might rest on sufficient terminals to support a digital PBX. The presence of a modern PBX permits DS-1 access to be provided to an interexchange carrier in competition to the public network for exchange access. I use the more restrictive definition set forth in my analysis. See The Geodesic Network: 1987 Report on Competition in the Telephone Industry, prepared by Peter Huber for the U.S. Department of Justice (Washington, D.C.: 1987) (Huber Report), p. 2.23, fn 76.

[4] The DS-1 rate is also frequently referred to as a T1 rate or T1 line.

[5] Calculations using cost models developed by Charles L. Jackson indicate that at about 20,000 MOU/month private microwave capacity becomes competitive with switched access at current rates in New York. (Charles L. Jackson, High Capacity Transmission Alternatives in Lower Manhattan, April 15, 1987, included as Attachment 1 to this affidavit)

> are or are not substitutes, particularly if business decisions have been based on those perceptions.

Recently announced offerings such as AT&T's Software Defined Network (SDN) and Megacom are designed to offer a significant discount over switched access rates to customers using high capacity special access. Furthermore, the interexchange carriers are rapidly moving toward vertical integration, which would provide both access and interexchange transport, in the large user market. (Huber Report, p. 3.42) This movement is evident in New York, where the PSC noted:

> AT&T Communications also provides its ACUNET Reserved 1.5 megabit services, Audiographics Teleconference Service and Software Defined Network Service as adjuncts to its interLATA message telephone services. (NYPSC Case 29469, Order Instituting Formal Proceedings, 10/22/86, p. 5)

In addition, AT&T has applied to the NY PSC to provide an intrastate version of its Megacom high capacity WATS service which uses customer provided access. (AT&T Petition in NYPSC Case 28940, February 27, 1987, pgh. 7) Furthermore, competitors such as Teleport Communications in the New York LATA offer access services in a minimum volume of DS-1 (T1) capacity. Along with SDN and Megacom, and similar large customer services offered by other interexchange carriers, such as MCI's Prism, the large user access market defines a distinct product market.

13. Geographic markets are defined for antitrust purposes along the same general lines as product markets. However, I will not attempt to determine the precise geographic market boundaries for large user exchange access. Instead, I will follow the Consent Decree and use the LATA boundaries to structure my economic analysis. Thus, I analyze the NYC metropolitan LATA.

C. Technology, Markets, and Regulation Cause NYNEX to Satisfy the VIII(C) Standard for Large Users

14. Significant changes in both the economics and the technology of large user access have eliminated the "bottleneck" which allegedly conferred on

predivestiture AT&T monopoly power to exclude competition in interexchange markets through its control of the local exchange network. The existence of this competition for large users, plus the change in regulation which ensures that the BOCs can not discriminate against the competitors nor cross-subsidize to drive them from the market, demonstrate that NYNEX could not, through New York Telephone, impede competition in the market it seeks to enter.

a. Technology and Economics for Large Users' Exchange Access

15. The most important change in technology for large users is their increased use of PBXs. PBXs have become considerably more sophisticated since the Consent Decree as they have moved to digital systems while at the same time the price per line of digital PBXs has declined significantly. The price of PBXs on a per line basis has decreased approximately 20 percent since the Consent Decree was entered. Digital network switches of interexchange carriers are now able to provide dial tone to customers' PBXs directly over high capacity circuits, e.g., DS-1 (T1) or higher capacity circuits. These high capacity circuits provide competition to exchange access to POPs over the public switched network.

16. PBX facilities have a far greater share of the large user market than does the main competitive offering, NYTel Centrex service. Large users will almost always choose between a PBX based system and Centrex because of the pronounced economies of scale available over single line service or key based systems. The number of lines served by PBXs has been growing considerably faster than has Centrex.

17. The presence of PBXs is also important when combined with the increased presence of metropolitan area networks. These metropolitan area networks are based on another post-Consent Decree technological development--low cost fiber optic transmission technology of extremely high capacity. Fiber optic

capacity has approximately doubled in each year since the Consent Decree while its cost is now only about one-third as great as in 1982. Metropolitan area networks provide facilities based competition to the local loop. They may have a technological advantage over the local loop in some locales because of their fiber optic basis in place of the older copper technology.

18. High frequency digital radio provides another low cost competitor to the local loop. These microwave facilities again can bypass the local loop and can connect directly to an interexchange carrier POP or indirectly through a Teleport facility for example.

b. Competitive Alternatives for Exchange Access for Large Users

19. The major competitive alternative to NYTel's access facilities is Teleport Communications (Teleport). The amount of capacity offered by Teleport is an important competitive factor. The capacity expansion by Teleport via its fiber optic metropolitan area network in only two years is remarkable. This post-Consent Decree competitive entry by Teleport is direct evidence of a decrease in "bottleneck" monopoly power of NYTel in the large user market. Teleport described its competitive presence in the large user market in its March 13, 1987 Comments to this Court:

> Teleport Communications currently operates a 150 mile fiber optic network serving the New York City metropolitan area. In New York City, the network spans mid and lower Manhattan, with links to Queens, Brooklyn and Staten Island .... Teleport Communications' regional fiber optic network and satellite communications center began operation in the second quarter of 1985. Teleport Communications provides two general categories of services to interexchange carriers. First, it provides dedicated high capacity (1.544mbps) access lines between the intercity carriers and their major New York and New Jersey customers. . . Second, TC also offers an important interexchange function for the long distance carriers by linking them together with high capacity

> (1.544 mbps or 45 mbps) digital circuits carried on its fiber optic network (pp. 3-4, footnote omitted)

According to data provided in Comments to this Court, approximately 4000 equivalent voice grade circuits are currently being provided by Teleport specifically to connect large customers to interexchange carriers.[6] The number of circuits provided for this purpose can increase by a factor of about 35 times given Teleport's current installed capacity (p. 3, fn. 3).

20. Thus, Teleport is an important current competitor to NYTel in the large user exchange access market since 1.544 mbps access lines corresponds to DS-1 (T1) capacity which I use to define the market. Furthermore, Teleport claims that its service and price are superior to NYTel:

> By contrast [to NYTel], TC's [Teleport Communications'] end-to-end 100 percent fiber optic network is extremely simple and reliable. There are fewer multiplex points, all electronic equipment is fully redundant, traffic is routed over completely diverse and redundant backbone cables, and every element in the entire network is continuously and automatically monitored from a centralized network management center. While New York Tel is beginning to offer high speed DS-1 and DS3 services via fiber optic facilities, these offerings are more costly than TC's equivalent service, and the redundancy and diverse routing which are inherent in TC's network are provided only at substantial extra cost. (Teleport Communications Petition for Declaratory Ruling to the FCC, March 27, 1987, p. 29)

A significant investment has been made by a competitor which is truly "sunk" capital, i.e., the investment cannot be recouped if Teleport is not a long run commercial success. Thus, not only is Teleport Communications an important

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[6] NYNEX's estimate of Teleport's potential capacity is considerably greater. However, I use Teleport's own estimate of capacity in service in my analysis which more than adequately demonstrates the existence of current competition in the large user market.

current competitor to NYTel in the large user access market, they are an even more important future competitor.

21. The Teleport network already serves every major domestic and international interexchange carrier. A Teleport Communications document claims that it is already a competitor in the toll access market. (Teleport Communications 1986, p. 5) Nor are the hookup fees to Teleport sufficiently large to deter large users from choosing Teleport exchange access. The fee charged by Teleport is about $3,000 for building access from the network, although if another customer in the building already is connected to Teleport the charge drops substantially, to as little as $500 (American Banker, January 29, 1986).[7]

22. Furthermore, this sunk investment by Teleport directly contradicts the claim by AT&T and MCI that the BOCs have a significant cost advantage for local high capacity transport because of economies of scale, at least as applied to the NYC LATA. Currently, Teleport uses about 84 percent of its capacity for high capacity transport.[8] MCI estimates that BOCs could lower the price of DS-1 capacity by as much as 70 percent. (Huber Report, p. 2.22; p. 3.31, fn 110) The economically relevant cost here is marginal cost, and Teleport's marginal costs are very similar to NYTel's for fiber optic capacity. No competitor would enter a market if it were at a significant cost disadvantage. Better service quality would be extremely unlikely to overcome a large difference in costs of production. Actual market evidence through ongoing investments in fiber optic metropolitan area networks is a much more reliable indicator of current and future costs than are

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[7] The bulk of Teleport's capacity (73 percent) is currently used to connect interexchange carriers to each other. Since interexchange carriers are likely to be major customers for PTAT and its competitors, Teleport already has the required hookups for these customers. See Comments of Teleport Communications on the Triennial Report, March 13, 1987, p. 4.

[8] Ibid, pp. 4-5.

engineering calculations put forth by AT&T and MCI, future competitors of the BOCs, if the BOCs are permitted to enter interexchange markets.

23. Current prices indicate that Teleport should be included in the large user access market. Currently, NYTel's rate for two mile Interoffice, DS-1 line, $1,062, is quite close to the price charged by Teleport, $1,006.[9] If NYTel attempts to raise its price by 5 percent, i.e., $50, it would likely lose significant amounts of traffic to Teleport. The existing 6 percent price difference and difference in service quality has led to switching by large customers to Teleport; a further increase to an 11 percent price difference would increase the rate at which customers leave NYTel for Teleport.

24. To estimate Teleport's current competitive importance, I compared the current supply of DS-1 or higher capacity by Teleport to NYTel. Using the March 13, 1987 Comments of Teleport on the Triennial Report, I estimate that Teleport currently supplies approximately 1,500 DS-1 circuits.[10] (p. 3, fn. 3) NYTel currently provides about 6,000 DS-1 circuits in all of New York State. Thus, Teleport currently supplies about 25 percent as many high capacity circuits as NYTel provides throughout New York State. While the percent difference must be interpreted with some caution because the Teleport circuits may well include capacity provided in New Jersey, the respective capacity supplied by Teleport and NYTel does demonstrate that Teleport already has a significant competitive presence in the provision of high capacity circuits to large users.

25. AT&T is also considering increasing capacity within the NYC metropolitan LATA so that it is positioned to provide competitive exchange access

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[9] This price is the average of the quoted Teleport price for one zone and two zone crossings.

[10] Each DS-1 equivalent circuit is equivalent to 24 voice grade circuits.

to large users. By the end of 1987, AT&T is expected to have increased the number of AT&T POPs in Manhattan from four at the time of the Consent Decree to seven. Even if AT&T does not decide to add more POPs, it is already connected to Teleport and can provide access for its SDN or Megacom offerings over the Teleport network. AT&T has purchased 750 DS-1 circuits from Teleport, which is equivalent to 18,000 voice grade circuits. (Network World, March 27, 1985, pp. 11-12)[11] Also, AT&T has sold two 5ESS switches to Merrill Lynch in the World Financial Center which are connected directly to an AT&T POP using the Teleport network. The increase in switching capacity, access points and nodes by AT&T will provide less costly transport for large users to an AT&T POP. AT&T will thus be able to set lower prices for such services as SDN and Megacom which will make them more competitive with local access transport provided by NYTel. This increase in POPs and user owned switches increases the number of nodes in the system. The new nodes together with private transmission capacity provides direct competition and removes the "bottleneck" capability of NYTel to impede competition in the interexchange markets for large users. (Huber Report, p. 1.31) AT&T's increase in providing its own exchange access is in line with Mr. Huber's conclusion: "Both engineering and market factors make the move toward direct connection between ICs and their largest customers inevitable." (Huber Report, p. 3.42)[12]

26. The second competitive option to NYNEX exchange access for large users is microwave systems. Microwave is currently used by many firms and carriers for short-haul communications in lower Manhattan and throughout the NYC

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[11] Teleport currently has six network nodes in Manhattan.

[12] Similarly, by the end of 1987 AT&T is expected to double the number of POPs on Long Island from two to four.

metropolitan LATA. Microwave can be very cost competitive to fiber optic transmission for large users. (Huber Report pp. 3.31-3.32, Report of Charles L. Jackson, April 15, 1987, Table 1 and Table 2) Thus, large users can use microwave transmission for exchange access to an interexchange carrier's POP. Microwave options are available and are widely used throughout the NYC metropolitan LATA.

27. Questions of microwave spectrum availability in Manhattan arise. However, according to the study prepared by Charles L. Jackson (April 15, 1987, p. 9, p. 20), the appropriate frequency bands for short haul communications in Manhattan are the 18 GHz and 23 GHz frequency bands. These frequency bands are already widely used in Manhattan. However, they are not congested and significant capacity still exists in Manhattan. Furthermore, many of the 18 GHz and 23 GHz frequency bands which have been allocated have not yet been put into service, which demonstrates that significant capacity exists to meet large user demand.

28. According to data compiled for FCC license applications, Local Area Telecommunications, known as "LOCATE," along with New Jersey Bell Telephone, US Transmissions Systems, Eastern Microwave, AT&T, and MCI Telecommunications have filed plans ("coordinated") to establish microwave links in Manhattan in the 18 GHz and 23 GHz frequency bands. Short haul microwave is also available to connect customers into the Teleport fiber optic cable network. Teleport is connected to all major interexchange carriers. Thus, microwave access for large users to interexchange carriers can be accomplished either directly to the POP or indirectly through connection to Teleport.

29. Mr. Huber concludes that: "In both switching and short-haul transmission markets, large users in urban areas already operate in a fairly competitive market." (Huber Report, p. 2.25) He also states that: "Judging from

the installed capacities in many regions, the competitive threat from microwave systems, metropolitan-area fiber networks, and satellite systems is already or soon will be substantial." (Huber Report, p. 3.36) In the NY metropolitan LATA competition is considerably more advanced than in other large urban areas, and the market for large user exchange access is competitive.

c. The Current State of Competition for Exchange Access in the NYC Metropolitan LATA

30. Both actual and potential competition must be analyzed in determining the competitive status of a market. Given the fact that significant competition in large user access to interexchange carrier POPs did not begin until divestiture took place in 1984, the amount of actual competition in the NYC metropolitan LATA is remarkable. The significant investments made by large users and by competitors such as Teleport clearly signal increased competition in the future. And both access offerings by the interexchange carriers and the increased construction of POPs demonstrate that both significant actual and potential competition exist.

31. To determine the potential competitive importance of Teleport, I directed a study in which I matched the current locations of the Teleport fiber optic network in Manhattan with NYTel's largest 400 customer locations. These customers are all sufficiently large to make use of Teleport DS-1 (T1) facilities.[13] Furthermore, while these 400 customer locations represent less than 1 percent of all NYTel business customer locations in Manhattan, they represent approximately 32 percent of the interexchange business toll usage in Manhattan. My results demonstrate that 64.5 percent of the top 400 customer locations are in buildings

[13] I set the cutoff for use of one or more DS-1 special access circuits to be greater than 20,000 minutes of total interLATA MTS and WATS usage per month. This amount of usage is more than enough to justify purchase of NYTel DS-1 special access service. Note that the NYTel monthly price exceeds the Teleport price by about 5 percent. This cutoff on usage is slightly below the lower limit of usage for the 400 largest customer locations in terms of interLATA toll usage.

adjacent to current Teleport routes. Alternatively, locations passed by Teleport routes account for 66.4 percent of interLATA toll usage for top 400 customers. Thus, nearly two-thirds of the 400 largest customer locations in Manhattan currently have the competitive option of choosing Teleport Communications over NYTel for access to interexchange carriers.[14]

32. My competitive match includes only those customer locations currently passed by the Teleport network. This information was provided to me by Empire City Subway which is in charge of all conduits in Manhattan.[15] The results are likely to understate the amount of current and likely future competition provided by Teleport. First, I consider only current Teleport routes. Second, I have limited the locations to only those locations with individual customers whose own traffic at a given location is sufficient to justify the purchase of a DS-1 line which is the equivalent of 24 voice grade circuits. In practice, these circuits could be shared by different customers at the same location which would increase the amount of NYTel access revenue subject to competition. That approximately two-thirds of the large user exchange access market in Manhattan is currently open to competition demonstrates that NYTel no longer has "bottleneck" monopoly power for large users. For users who can economically justify a DS-1 or larger capacity, significant competition now exists.

33. Teleport is able to extend its network to more locations in a relatively short period of time by using the same duct path right of ways which

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[14] See Exhibit 3 in the Appendix which show the calculations referred to in this paragraph.

[15] Data confidentiality was strictly preserved because Empire City Subway did not tell me which specific buildings are served by Teleport. Furthermore, no Teleport route information has been provided to either NYTel or NYNEX.

NYTel uses. Therefore, my estimate of current competition from Teleport is a lower bound on what competition will be, even in the very near future.[16]

34. Another provider of exchange access in Manhattan is Manhattan Cable TV (MCTV). MCTV connects to 60 Hudson Street which is a major POP for interexchange carriers in New York City. MCTV provides service for data transmission over broadband coaxial cable. MCTV also provides voice transmission service. MCTV reports that their Data Communications Service clients include Banker's Trust, Chase Manhattan Bank, and other large NYC banks. (Sales Brochure, February 3, 1987.) As of November 1986, MCTV reports their presence in more than 80 buildings in Manhattan for data services. The monthly lease rate for DS-1 capacity is $1,000 per month which is approximately the same rate as NYTel. However, MCTV claims a better quality of service than is provided by NYTel in terms of error rates for data transmission.

35. Outside of Manhattan in the NYC metropolitan LATA, microwave is the major competition to NYTel provided access to interexchange carriers. Microwave is cost competitive with NYTel's current access charges for large users. (Huber Report, pp. 3.31-3.32, Charles L. Jackson report, op. cit. Table 2A). For instance, Jackson estimates that total monthly costs of a DS-3 capacity microwave link is about $3,000 while the NYTel DS-3 tariff is between $12,000 and $15,000 per month. For DS-1 service NYNEX currently charges $1,062 per month while the Jackson estimate for microwave is approximately $985 per month. Also, outside Manhattan spectrum availability for microwave transmission for exchange access

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[16] Empire City Subway duct space is available for Teleport Communications' expansion. Teleport Communications 1986 Annual Report discusses its plans for expansion as follows: "In 1987 we will bring the benefits of our network to more businesses in the metropolitan area by expanding the geographic coverage of our fiber network. Typically, we will do this by extending our "backbone" cables to new area and by connecting new buildings to the backbone network." (p. 3)

does not present a problem. Thus, both in Manhattan and throughout the New York City metropolitan LATA, microwave exchange access provides a competitive alternative to access provided by NYTel.[17]

36. To estimate the amount of current use of alternative facilities to NYTel, I directed a survey of large users in March 1987. The 500 largest NYTel customers in Manhattan were surveyed about their telecommunications network uses by Schulman, Ronca and Bucavalas, a leading firm in telephone surveys. Out of 222 respondents, 14 percent report currently existing use of direct links to interexchange carriers. Of the respondents, 30 percent report private long distance networks, non-NYTel access services, or other forms of competitive alternatives to NYTel services. Thus, a significant number of large users in the NYC metropolitan LATA currently use services competitive to those offered by NYTel.

37. The use of the alternative access to interexchange carrier POPs already has had a significant competitive effect on NYTel's revenues. I conducted an econometric analysis of the survey data together with NYTel usage data to determine the effect of alternative exchange access for the large users. For those companies which had alternative exchange access to NYTel, use of NYTel exchange access grew by about 35 percent more slowly than comparison companies without alternative exchange access. The results are highly significant statistically. Thus, among the 500 largest NYTel customers, the 14 percent of the customers with direct links to interexchange carriers and the 35 percent decrease in rates of growth yields an estimate of 8.5 percent slower rate of growth in exchange access among

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[17] In addition other options are also viable outside of Manhattan. For example, Tenex Communications operates a 45 mile fiber-optic network which connects White Plains, NY, Stamford, CN, and Hackensack, NJ to its Manhattan location at 60 Hudson Street, which is a major POP for interexchange carriers.

NYTel's 500 largest customers in Manhattan due to competitive alternatives for exchange access.[18]

38. Both economic and legal analysis demonstrate that market power or the ability to impede competition does not exist so long as alternative suppliers exist who have comparable or lower costs and the ability to expand supply without significant increases in costs.[19] This lack of market power exists in the NYC metropolitan LATA due to the competitive presence of Teleport, microwave facilities, and other suppliers of DS-1 or above capacity for exchange access.

39. I conclude that the VIII(C) provision has been met in the interexchange market for large users in the NY metropolitan LATA. There is no substantial possibility that NYTel is able to "impede competition," because alternative suppliers offer competitive services for interexchange carrier access which eliminate NYTel's "bottleneck" control for access to interexchange carriers.

d. Regulation Favors Competition in the Large User Exchange access Market in the NYC Metropolitan LATA

40. Teleport already has the ability to both provide and resell intraLATA and interLATA service. A decision regarding provision of switched services by Teleport will be made pending the NYPSC generic docket on competition. If approved, Teleport will then be able to offer complete competition for all calls except for local exchange calls to non-Teleport customers which would be completed by resale of NYTel service. However, NYTel will not have the ability to discriminate on these local calls since they are standard offerings under tariff with rates set by the NY Public Service Commission.

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[18] The 14 percent of customers with direct links to interexchange carriers account for about 25 percent of 1985 switched access traffic.

[19] See William Landes and Richard Posner, "Market Power in Antitrust Cases," Harvard Law Review, 94, 1981, pp. 945ff.

41. The FCC has recently changed its regulations so that excess microwave capacity can be sold in the open market by current microwave license holders (FCC Docket 83-426, granted April 4, 1985, amended March 27, 1986). Thus, current or potential microwave users can sell capacity to other users who do not have large enough usage to justify a stand-alone microwave system or who cannot obtain microwave frequencies in their geographical location. Given the relatively low marginal costs on a less-than-fully utilized microwave system, excess capacity should be able to be sold on an economical basis.[20]

42. Equal Access is one of the two major changes, along with seven new potential competitive entrants, which the Consent Decree has introduced into U.S. telecommunications markets. The Consent Decree requires each BOC to provide exchange access for both switched and unswitched service, e.g., DS-1, on an unbundled, tariffed basis which is equal in type, quality, and price across all interexchange carriers. Equal access requirements severely limit or eliminate the BOC's ability to discriminate in either price or service quality in exchange access markets. By 1989, when PTAT is scheduled to begin operation, over 99 percent of lines in the area below Central Park South and 97 percent of all lines in Manhattan will have equal access. Thus, the ability to discriminate against interexchange carriers who serve large users over the switched public network has been largely eliminated. Furthermore, the Consent Decree equal access requirements also apply to special (non-switched) access provided to interexchange carriers or their customers. Equal access is currently fully implemented for special access service to interexchange carriers by NYTel. Along with continuing FCC regulation of special

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[20] Microwave carriers such as LOCATE are subject to FCC license requirements and are not required to obtain approval from the NY PSC.

access, the BOCs do not have the ability to discriminate on either switched access or unswitched access to interexchange carriers.[21]

III. THERE IS NO SUBSTANTIAL POSSIBILITY THAT NYNEX CAN IMPEDE COMPETITION IN THE INTEREXCHANGE MARKET OR IN THE LARGE USER EXCHANGE ACCESS MARKET BY CROSS-SUBSIDY OR DISCRIMINATION

43. NYNEX has neither the incentive nor the ability to cross-subsidize the PTAT venture. Nor can NYNEX harm competition in the currently competitive large user exchange access market through a cross-subsidy policy directed at Teleport.

A. Economic Theory Equates Cross-Subsidy to Setting Price Below Marginal Cost: NYNEX Has No Incentive To Do So

44. Joint or common costs often lead to economies of scope: it may be less costly to produce given levels of output for two products jointly than if each is produced in a stand alone manner. The standard set by economics is that each product or service should be priced at least at its marginal cost. The marginal cost is the cost of producing one more unit of a good or service.[22] In the case of one regulated product, say local exchange access service, and one unregulated service, say international transport service (ITS), a price below marginal cost for ITS implies that it is being cross-subsidized by the regulated product. Furthermore, competitors could argue that they are potential victims of a predatory pricing scheme.[23]

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[21] The FCC in its recent approval of transfer of control of PTAT (Tel-Optik) to NYNEX found, "moreover, we have sufficient authority to prevent NYNEX from discriminating in any way against users or carriers which do not use Tel-Optik's facilities." (In re Application of Tel-Optik, April 20, 1987, p. 2) ("Tel-Optik Order")

[22] In telecommunication, the notion of marginal cost is sometimes replaced by incremental cost. However, the basic principles of pricing remain the same.

[23] The Government finds that cross-subsidization presents an antitrust problem only when it leads to predation. (Report and Recommendations of the United States Concerning the Line of Business Restrictions Imposed on the Bell Operating (continued...)

45. However, predation is unlikely to be a successful tactic by any business, regulated or not. Predation is especially unlikely to succeed in the international transport market. It is extremely unlikely that AT&T, by far the largest market participant, would ever exit the market. Finally, even if it did exit, when future prices are raised to recoup current predatory losses AT&T would re-enter the market using its current capacity. Thus, an attempted predatory strategy by PTAT against AT&T could never succeed.

46. No rational economic or business strategy would lead to pricing below marginal cost in international interexchange markets. Significant economies of scale exist in interexchange markets.[24] I find it extremely unlikely that a BOC could shift a sufficient amount of costs to price below its marginal cost and have a competitive effect on interexchange markets. Cross-subsidy is especially unlikely here since PTAT will operate as a subsidiary separate from the NYNEX operating telephone companies.[25] Thus, all business dealings between PTAT and any NYNEX telephone operating company would be conducted on the same terms and conditions as with other international carriers. Furthermore, that such a strategy could force AT&T or even MCI or US Sprint from international markets is extremely farfetched. Since the fiber optic network links would remain in place, even if a cross-subsidy

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[23](...continued)
Companies by the Modification of Final Judgment (Government Recommendations), p. 49)

[24] Indeed, the economic judgment on whether MCI and US Sprint will be able to compete with AT&T is far from clear. MCI's stock market value has fallen 75 percent from its high despite rapidly increasing stock market prices over the past five years. Furthermore, both MCI and US Sprint have reported losses in the range of $500 million each in the past year.

[25] The FCC decided in its recent decision on transfer of control of PTAT to NYNEX, "Further, it does not appear that NYNEX Corporation could utilize its dominant local telephone ventures to cross-subsidize its Market Link operations." (Tel-Optik Order, p. 3) The FCC finds NYNEX's proposed "structural separation" of PTAT to be beyond what they would require to approve the venture.

strategy did force out some competition, when a BOC attempted to raise prices these links would be used by a new entrant. Thus, cross-subsidy would not be attempted by a BOC entrant into an interexchange market.

47. Furthermore, NYTel could not use cross-subsidy to drive Teleport from the exchange access market. Teleport's fiber optic technology allows them to have short run marginal costs which are at least as low as NYTel's. Since the capacity is already in place, any predatory action by NYTel would be met by Teleport lowering its prices to a level where the losses sustained by NYTel would be enormous.

B. NYNEX Has Neither the Incentive nor the Ability to Discriminate in the Large User Exchange access Market

48. The share of access cost in the total cost of international telecommunication is quite small.[26] This small cost share together with the very large amounts of revenue derived from interexchange carrier access provided by NYTel to large users eliminates any incentive for discrimination. Attempted discrimination would likely lead NYTel's large customers to choose competitive access options such as Teleport. NYTel would then lose access revenues from these customers for access to both domestic and international interexchange carriers. The small advantage which PTAT might gain in the international interexchange market would be more than outweighed by NYTel's access revenue losses. Thus, NYTel lacks the incentive to discriminate.

49. Furthermore, NYNEX lacks the ability to discriminate. NYNEX cannot identify which of its facilities provide international access rather than domestic exchange access for large users. For NYNEX to discriminate they would have to

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[26] Using either PTAT's or ATT's planned rates for transatlantic service and the cost of DS-1 exchange access, the share of access cost is between 1 and 2 percent.

degrade access to AT&T, MCI, and all other international interexchange carriers. An attempted discrimination policy is extremely unlikely to be successful given equal access requirements. Furthermore, the customer must be aware of discrimination for it to be successful. Regulators and competitive carriers would be extremely likely to recognize such discrimination.[27]

50. The presence of the other BOCs plus GTE also make an attempted discriminatory policy very unlikely to succeed. They provide benchmarks against which to judge NYTel's performance. Service quality discrimination or interconnection delays would be difficult to hide in comparison with the performance of the other BOCs.

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[27] The FCC in its recent approval of transfer of control of PTAT to NYNEX found no indication "that such discrimination could occur without readily being detectable by competing service providers and remediable through our complaint process." (Tel-Optik Order, fn 15)

IV. PTAT TERMINATION INTO A NON-NYNEX LATA CREATES NO ANTICOMPETITIVE POTENTIAL

A. No "Bottleneck" Exists for These Markets

51. A significant element in the economic and antitrust theory of the Government case against AT&T was that it used its local "bottleneck" to exclude or to impede interexchange competition. If PTAT were terminated in a non-NYNEX LATA, the local "bottleneck" would be of no economic relevance. Thus, even if the bottleneck continued to exist for large user exchange access, which I have demonstrated is not the case, NYNEX has no ability to use the bottleneck for anticompetitive purposes for a non-NYNEX LATA termination.

52. Furthermore, no incentive would exist to attempt to discriminate within a region in favor of customers who used an affiliated international interexchange service out of the region. Detailed knowledge of the customers out of region businesses would be needed to identify potential out of region customers. Such detailed knowledge is typically unavailable to a BOC. Furthermore, individual customer discrimination is rendered extremely difficult by regulatory oversight and tariff setting. NYNEX would be forced to discriminate not only on special access used for international circuits, but on all special access circuits to the interexchange carrier POP. NYNEX has neither the incentive nor the ability to engage in either price or service quality discrimination against an interexchange carrier under either special or equal access regulation.

53. Equal access has been judged a success by all disinterested parties who have evaluated it.[28] Furthermore, the procedures and rules of equal access have been established. Thus, no BOC could manipulate equal access within its

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[28] These parties include the Department of Justice, the FCC, the NTIA and Mr. Huber.

region to give it a competitive advantage outside its region.[29] Indeed, the majority of remaining equal access elections will take place in less densely populated geographical areas where the economic attractions of providing international interexchange service are considerably less than the regions in which equal access elections have already taken place.

V. POTENTIAL CONSUMER BENEFITS

54. A major benefit of the Consent Decree is the much wider scope for competition in US telecommunications markets. Currently, very little competition exists in the North Atlantic telecommunications market, which is the market that PTAT plans to enter. Most facilities used in the North Atlantic market are currently controlled by AT&T and Comsat. AT&T's current share of North Atlantic submarine cable capacity is 73 percent which will rise to 75 percent when planned fiber optic cable capacity is installed. COMSAT is the only provider of international satellite facilities. (Affidavit of Richard T. Rapp, pp. 3-4) AT&T also controls the majority of satellite capacity under lease from COMSAT. Prices are established primarily by regulation and very little competition exists in this market.[30]

55. The demand for private line service across the Atlantic is likely to grow significantly over the next decade. First, internationalization of capital markets will increase private line demand to transport the large amounts of

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[29] Over 70 percent of BOC access lines have been converted to equal access. "[T]here is no longer reason to be concerned that allowing BOC entry into interexchange service would endanger the equal access goals of the MJF." (Government Recommendations, p. 70, footnote omitted)

[30] The facilities use price largely determines the service price since use of the undersea cable or satellite is by far the largest cost of international telecommunications.